PARC OLYMPIQUE

Case Study:

Parc olympique Renovation

Project	Office Renovation
Size	25,000 sqft
Duration	1 yr
Reduced Site Visits	50%
Cupix ROI	6X

Introduction

From the hosting of the XX1 Summer Olympics in 1976 to its continued use as a flexible multi-use complex, the stadium nicknamed “The Big O” has quite a history.

Today Parc olympique, operated and managed by the government of Quebec, is in a constant state of development, with many active construction projects to accommodate new activities. This case study will highlight a recently completed project to renovate office spaces within the historic Olympic Stadium and explore the Parc olympique team’s innovative use of Cupix technology to overcome challenges and achieve remarkable results in time savings and cost efficiency while minimizing mistakes.

Project Overview

The renovation of Parc olympique's offices represented a significant undertaking, involving the construction of new offices that would reflect the modernization efforts by the Parc to upgrade its facilities while preserving the iconic status of the Olympic Stadium.

Challenges Faced

Renovating office spaces may seem like a routine project, but transforming an architectural marvel into something completely new is no ordinary task. The construction project creatively incorporated contemporary office spaces on the first floor of the stadium, merging the vibrant energy of sports with the sophistication of the business world, offering a distinctive combination of utility and energy.

Because of the uniqueness of the project, typical construction hurdles can be magnified, and the Parc olympique team was faced with the following challenges:

Existing Data Reliability

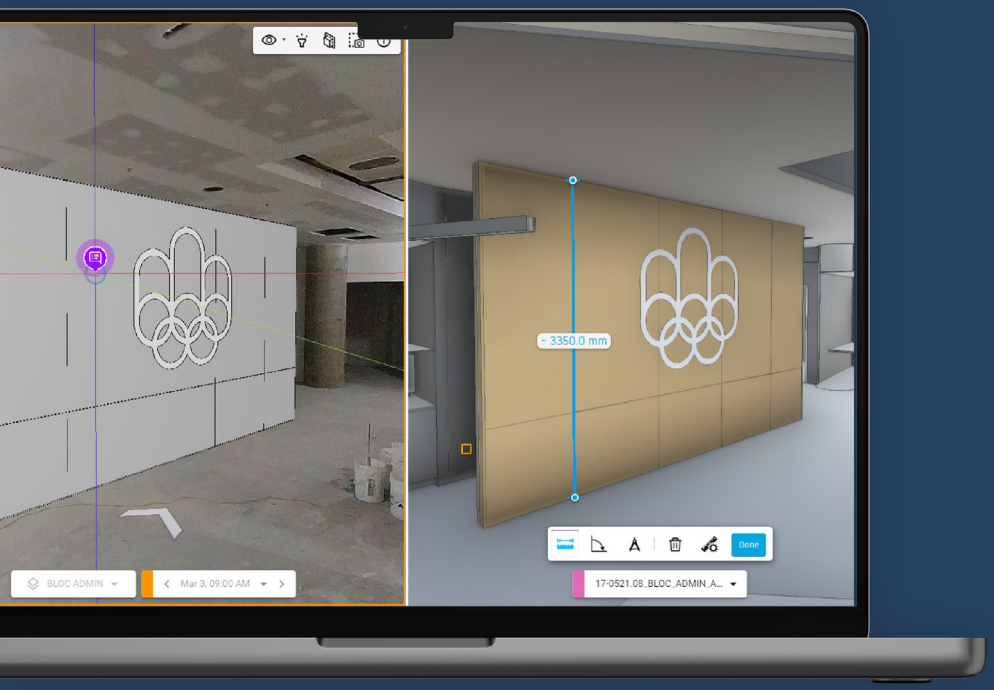
The existing data of the stadium were not always reliable, creating discrepancies during construction.

Design Coordination

Frequent design changes and the need for precise communication.

Timeline and Budget Constraints

Managing a strict timeline and budget was critical, with every day on the work site incurring considerable costs.



"It's always surprising when we tear down walls and open ceilings and find out what's inside. Visualizing and tracking what we discover really helps us during construction to figure out what fits from the design and actually complies with the existing conditions."

Romain Leygonie
BIM Specialist, Parc olympique

Implementation of Cupix Technology

CupixWorks reality capture and collaboration software was used to take 360 video and create panoramic imagery and 3D point clouds. The data was then aligned to the project's federated BIM for quality control and progress tracking to address the project challenges. The following are some of the features that had an impact on improving schedule and cost.

Existing Information Capturing

Cupix was crucial in capturing accurate as-built information, aiding in aligning designs with actual conditions.

Virtual Walkthroughs

The technology enabled remote site access for the project team and stakeholders to reduce site visits.

BIM Coordination

The team could easily compare BIM models with as-built point clouds, leading to effective design adjustments and avoid conflicts.

Progress Tracking

It enabled real-time progress tracking and comparison of designs with actual construction to keep the project on schedule and ensure quality.

Benefits Realized

Cost Savings

Implementing Cupix led to savings of tens of thousands of dollars by avoiding rework and design modification costs. It also enabled verification of completed work by trade by simply browsing Cupix which saved thousands on the project.

Time Efficiency

The project benefited from remote site access saving significant travel time for architects and engineers - about 30 minutes per trip. The improved project transparency and collaboration minimized delays throughout the project.

Error Reduction

Enhanced accuracy in design and construction minimized errors.

Decision-Making Efficiency

The technology facilitated quicker and more informed decision-making processes by providing a single source of truth and improving collaboration.

Marketing and Visualization

Cupix also served for creating promotional materials and visualizing new workspaces for the office workers.

> “I use this tool for reporting to upper management to show them where the project is and how it has progressed. The visualizations and BIM comparisons really provide a clear picture of the project status.”

Jean-Simon D’Anjou
Construction Project Manager

Future Plans

Based on the great success of the office renovation project, Parc olympique plans to integrate 360 photo/video capture more extensively in future projects. They aim to:

Incorporate from Project Inception

Based on lessons learned on this project, implementation during design and pre-construction is expected to significantly save time and lower costs.

Enhance Collaboration

Foster a more agile and efficient communication platform for all stakeholders, including architects, engineers, general contractors, subcontractors and inspectors.

Automate Quality Control

Use automated alignment and comparison of the as-built deviation from the BIM with color coded tolerances for a clear understanding of the as-built accuracy.

> “For everyone on the project to have access to a platform that provided real-time site conditions regardless of where they were was great for coordination. To be able to get site updates each week or even each day to keep up with the speed of the work on site was a huge benefit.”

Jean-Simon D’Anjou
Construction Project Manager

Conclusion

The successful use of CupixWorks at Parc olympique showcased how the transformative impact of Cupix technology in managing complex construction projects within existing structures can significantly enhance project outcomes in construction and renovation. The combination of real-time data capture, virtual walkthroughs, and seamless integration of as-built 3D data with BIM led to substantial cost and time savings, setting a benchmark for future projects in the industry.

The technology not only brought about substantial cost and time savings but also laid a foundation for future projects to leverage digital tools for enhanced efficiency and accuracy. The innovative use of Cupix by a trailblazing project manager has made a strong impression within the construction department, getting the attention of colleagues with its advanced capabilities. His demonstration of Cupix not only impressed the team but also ignited a wave of curiosity and interest, fostering a collaborative and forward-thinking environment. Parc olympique's commitment to continuing the use of reality capture technology underscores its value in revolutionizing traditional construction management practices.